

CLAIMS

1. (Currently Amended) A ~~processor-readable~~ computer-storage medium ~~having~~ storing processor-executable instructions that, when executed by a processor, perform[[s]] acts comprising:

obtaining a digital good;

partitioning the digital good into a plurality of regions;

calculating rational statistics of one or more the regions of the plurality, so that the statistics of a region are representative of the region, wherein the calculating comprises generating the rational statistics of one or more regions of the plurality via a hashing function having a quotient of two weighted, linear, statistical combinations and wherein the rational statistics are semi-global characteristics, wherein numerator of the quotient is a first of the two weighted, linear, statistical combinations and wherein the denominator of the quotient is a second of the two weighted, linear, statistical combinations not one;

quantizing the rational statistics;

marking the digital good with the quantized rational statistics of the plurality of the regions.

2. (Canceled)

3. (Canceled)

4. (Currently Amended) A medium as recited in claim 1, wherein ~~the~~ of the hashing function is represented by:

$$h_i = \frac{\sum_{j \in R_i} \alpha_{ij} s_j}{\sum_{j \in R_i} b_{ij} s_j}$$

where:

- α_{ij} is the j^{th} element of α_i and α_i are a pseudo-random generated weight factors;
- b_{ij} is the j^{th} element of b_i and b_i are a pseudo-random generated weight factors;
- s denotes the digital good of dimension $N \times 1$;
- R_i are the plurality of regions, where $R_i \subseteq \{1, 2, \dots, N\}$.

5. (Original) A medium as recited in claim 1, wherein the partitioning comprises segmenting the digital good into a plurality of overlapped regions.

6. (Original) A medium as recited in claim 1, wherein the marking comprises embedding a watermark via quantization.

7. (Cancelled)

8. (Cancelled)

9. (Currently Amended) A ~~processor-readable medium~~ computer-storage media ~~having~~ storing processor-executable instructions that, when executed by a processor, perform[[s]] acts comprising

obtaining a digital good; and

using quantization, marking the digital good with a watermark, wherein such quantization is based upon semi-global characteristics of regions of the digital good, wherein such semi-global characteristics are generated via a hashing function employing a quotient of at least two weighted linear combinations of statistics of the regions of the digital good, wherein numerator of the quotient is a first of the two weighted, linear, statistical combinations and wherein the denominator of the quotient is a second of the two weighted, linear, statistical combinations ~~not one.~~

10-12. (Cancelled)

13. (Currently Amended) A system for facilitating the protection of digital goods, the system comprising:

a partitioner configured to segment a digital good into a plurality of regions;

a region-statistics calculator configured to calculate rational statistics of one or more of the plurality of regions, wherein the statistics of a region are representative of that region, wherein the region-statistics calculator is further configured to generate the rational statistics of one or more regions of the plurality via a hashing function having a quotient of two weighted, linear, statistical combinations and wherein the rational statistics are semi-global characteristics, wherein numerator of the quotient is a first of the two weighted, linear, statistical combinations and wherein and the denominator of the quotient is a second of the two weighted, linear, statistical combinations ~~not one~~;

a region quantizer configured to quantize the rational statistics of a region;
and

a digital-goods marker configured to generate a marked good using the quantized rational statistics.

14. (Original) A system as recited in claim 13, wherein the region-statistics calculator is further configured to generate the rational statistics of one or more regions of the plurality via a hashing function.

15. (Canceled)

16. (Original) A system as recited in claim 13, wherein the partitioner is further configured to segment a digital good into a plurality of overlapping regions.

17. (Currently Amended) A system as recited in claim 13, wherein h of the hashing function is represented by:

$$h_i = \frac{\sum_{j \in R_i} a_{ij} s_j}{\sum_{j \in R_i} b_{ij} s_j}$$

where:

- a_{ij} is the j^{th} element of a_i and a_i are a pseudorandom generated weight factors;
- b_{ij} is the j^{th} element of b_i and b_i are a pseudorandom generated weight factors;
- s denotes the digital good of dimension $N \times 1$;

- R_i are the plurality of regions, where $R_i \subseteq \{1,2,\dots,N\}$.

18. (Currently Amended) A ~~processor-readable~~ computer-storage medium ~~having~~ storing processor-executable instructions that, when executed by a processor, perform[[s]] acts comprising:

obtaining a digital good;

partitioning the digital good into a plurality of regions, wherein the partitioning comprises segmenting the digital good into a plurality of overlapped regions;

calculating rational statistics of one or more the regions of the plurality, so that the statistics of a region are representative of the region, wherein the rational statistics are semi-global characteristics;

quantizing the rational statistics;

marking the digital good with the quantized rational statistics of the plurality of the regions, wherein the marking comprises embedding a watermark via quantization,

wherein the calculating comprises generating the rational statistics of one or more regions of the plurality via a hashing function, h, that hashing function having quotient of two weighted, linear, statistical combinations, and where

$$h_i = \frac{\sum_{j \in R_i} \alpha_{ij} s_j}{\sum_{j \in R_i} b_{ij} s_j}$$

where:

- α_{ij} is the j^{th} element of α_i and α_i are a pseudo-random generated weight factors;
- b_{ij} is the j^{th} element of b_i and b_i are a pseudo-random generated weight factors;
- s denotes the digital good of dimension $N \times 1$;

R_i are the plurality of regions, where $R_i \subseteq \{1, 2, \dots, N\}$.